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1822 Mill Road • P.O. Box 13200 • Grand Forks, ND 58208-3200 • Phone (701) 795-4000

April 26, 2002

Richard R. Long, Director
Air and Radiation Program
U.S. EPA Region 8
Mailcode 8P-AR
999 18th St., Suite 300
Denver, CO 80202

Subject: Draft Dispersion Modeling Analysis
of PSD Class I Increment Consumption
In North Dakota and Eastern Montana

Dear Mr. Long:

This letter is in response to your letter of March 5, 2002, requesting comments on the above subject analysis. Minnkota retained ENSR to conduct a review of the analysis. Attached is a copy of their report entitled "Review of EPA Region VIII Draft Report: "Dispersion Modeling Analysis of PSD Class I Increment Consumption in North Dakota and Eastern Montana." This ENSR report lists some, but not all, of Minnkota's concerns with the above subject analysis. The review makes the following comments:

- The CALPUFF model in this application, is expected to over predict by about a factor of 2.
- The NDDH CALPUFF evaluation for the year 2000, relied upon by the EPA, neglected to consider regional background concentrations. When this is corrected, the result show an over prediction by a factor of approximately 2.
- Ambient air monitoring data for TRNP North and South Units shows the SO_2 concentrations have dropped, if anything, over the last 20 years. The trend for the SO_2 concentrations shown by the model does not show a decrease in concentrations similar to the trend shown by monitoring data. This indicates that some increment expanding sources are not adequately accounted for.

Minnkota also has additional concerns/comments as follows:

- Emissions from oil and gas wells must be included in the modeling. Due to the wells close proximity to TRNP areas, they can have a significant impact on the

increment expansion. Their exclusion from the modeling analysis could result in the model indicating erroneous exceedances of the increment.

- The EPA discusses the need to treat emissions on a "comparable" basis when calculating 3-hour and 24-hour emission rates. However, the use of emission rates computed on the basis of AP-42 for comparison with emissions measures by CEMS is not an "apples to apples" comparison. The calculated rates should be adjusted upward to account for the average error in the CEMS during the 1999 and 2000 time periods.

- When calculating emission rates, the analysis strives to use consistent methodologies for determining emissions in the base year and the current year in order to provide "comparable" data sets. This can result in erroneous representative emission rates. The emphasis should be on using the most accurate rates consistent with the legal definitions, regardless of the methodology used to obtain them.

- The method for calculating base year short-term emission rates is without a sound basis. Typically, power plants conduct a Uniform Rating of Generating Equipment (URGE) test at least annually, if not twice a year. This means the boilers will operate at their maximum capacity for at least 4 hours. Typically the boiler will be at this condition for 5 hours. This was taken into account when utilizing the CEMS data, but not when the EPA utilized the AP-42 generated data. The calculated maximum allowable emission rates would be a more representative emission rate for the short-term rate.

- The allowable emission rate should be utilized for Milton R. Young Station Unit 2 in the Montana Class I increment analysis. This method is preferable, as the source had not yet attained normal operation for a period of two years.

- Two sources, the Little Knife Gas Processing Plant and the Dakota Gasification Plant, should not have been included in the increment analysis as these sources were granted variances from the PSD increment consumption restrictions when the Federal Land Manager certified there would be no adverse impact due to projected increases in the ambient concentrations of criteria pollutants, when they were permitted. These source emissions should only count against the alternative increment as provided by Paragraph 165(d)(2)(iv) of the CAA.

- The EPA's analysis uses the 90th percentile actual emissions for each unit. The basis for this was "this seems like the representative method of determining

- current year emissions. And provides a reasonable estimate of worst case conditions that may recur in the future". However, this is contrary to the North Dakota Administrative Code, Chapter 33-15-15, which requires the use of the actual annual average emissions in tons per year for calculating PSD baseline concentrations and increment consumption.

- As an assessment, the modeling analysis should not be attempting to make a "reasonable estimate of worst case conditions that may recur in the future" but should simply assist in the determination of whether the ND SIP has protected the increment to date, rather than trying to predict future worst case conditions that may not occur.

- As stated on page 39 of the analysis, "EPA's regulations require States to periodically review their plans for preventing significant deterioration. (See 40 CFR 51.166(a)(4).)". The State of North Dakota is currently undertaking such a review. Until North Dakota completes its review and makes a determination, the EPA analysis appears to be unwarranted, or at a minimum, premature.

The results of the EPA conducted modeling and the conclusions at the end of the analysis indicate that violations of the PSD increments are occurring. However, as indicated earlier, ambient air quality for the TRNP North and South Units do not support this. Ambient concentrations of SO_2 have been stable or have decreased since 1980.

Air dispersion modeling should only be used as a tool in the assessment of the sufficiency of North Dakota's SIP to protect the PSD Class I increments. Based upon actual ambient air concentration trends and taking into account the inadequacies/limitations of this air dispersion modeling analysis, Minnkota believes that the North Dakota SIP is sufficient to protect the applicable increments.

Minnkota appreciates the opportunity to comment on the subject analysis. Should you have any questions concerning the above, please contact me at 701-795-4221.

Yours truly,

MINNKOTA POWER COOPERATIVE, INC.

John T. Graves, P.E.

C: Dave Loer
David Sogard
Luther kvernen